

WHAT IS CLAIMED IS:

1. A computer-implemented system for associating target data with a product classification schema, the system comprising a data association module operable to:

5 access the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, the schema further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

access the target data to be associated with the schema;

10 determine one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product attributes of the ontologies or between the target data and values for one or more of the product attributes; and

15 associate at least a portion of the target data with one or more classes in response to determining one or more classes with which at least a portion of the target data should be associated.

2. The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including the name or an equivalent name of a product attribute included in the ontologies of these one or more classes.

3. The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including values that match or are similar to values for a product attribute included in the ontologies of these one or more classes.

4. The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including a range of values that matches or is similar to a range of values for a product attribute included in the ontologies of these one or more classes.

5           5.       The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including symbols that match or are similar to symbols associated with values for a product attribute included in the ontologies of these one or more classes.

10           6.       The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data having formatting that matches or is similar to formatting of values for a product attribute included in the ontologies of these one or more classes.

15           7.       The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises using vector space analysis to identify multiple portions of the target data including values that correspond to values for multiple product attributes included in the ontologies of these one or more classes.

20           8.       The system of Claim 1, wherein determining one or more classes with which at least a portion of the target data should be associated comprises using statistical correlation techniques to identify portions of the target data including values that correspond to values for a product attribute included in the ontologies of these one or more classes.

25           9.       The system of Claim 1, wherein the values for one or more of the product attributes with which the target data may be compared are stored in one or more seller databases, the values in the seller databases being identified by one or more pointers associated with one or more classes of the schema.

30           10.      The system of Claim 1, wherein associating at least a portion of the target data with one or more classes comprises associating one or more pointers to the target data with the one or more classes.

Physical Properties		Chemical Properties		Thermal Properties		Mechanical Properties		Electrical Properties		Optical Properties	
Property	Value	Property	Value	Property	Value	Property	Value	Property	Value	Property	Value
Density	1.25 g/cm <sup>3</sup>	Refractive Index	1.50	Softening Point	150 °C	Tensile Strength	10 MPa	Volume Resistance	10 <sup>12</sup> Ω·cm	Transmittance	85%
Viscosity	0.5 dPa·s	Acid Value	2.0	Thermal Stability	200 °C	Elongation at Break	5%	Surface Resistance	10 <sup>10</sup> Ω	Absorbance	0.15
Flash Point	180 °C	Saponification Value	180	Decomposition Temp	300 °C	Modulus of Elasticity	1.5 GPa	Dielectric Constant	2.5	Color	Colorless
Freezing Point	-10 °C	Hydroxyl Value	100	Half-life	10 years	Poisson's Ratio	0.3	Dielectric Loss	0.01	Fluorescence	None
Boiling Point	100 °C	Acid Number	1.0	Stability	Stable	Impact Strength	5 kJ/m <sup>2</sup>	Volume Resistivity	10 <sup>14</sup> Ω·cm	UV Absorbance	0.05
Melting Point	50 °C	Alkaline Value	1.5	Storage Life	5 years	Compression Modulus	1.0 GPa	Surface Resistivity	10 <sup>11</sup> Ω	IR Absorbance	0.20
Crystallinity	50%	Hydroxyl Number	100	Handling Precautions	Non-hazardous	Flexural Strength	80 MPa	Volume Resistivity	10 <sup>13</sup> Ω·cm	NMR Chemical Shift	4.5 ppm
Thermal Conductivity	0.2 W/m·K	Acid Value	2.0	Disposal Instructions	Recycle	Flexural Modulus	2.0 GPa	Surface Resistivity	10 <sup>10</sup> Ω	Mass Spectrometry	100 m/z
Thermal Expansion Coefficient	100 × 10 <sup>-6</sup> /°C	Saponification Value	180	Regulatory Information	Compliant	Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	Elemental Analysis	C: 60%, H: 10%, O: 30%
Thermal Shrinkage	5%	Hydroxyl Value	100	Manufacturer's Data	See datasheet	Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>12</sup> Ω·cm	Thermal Gravimetric Analysis	5% weight loss at 300 °C
Thermal Degradation	10% at 200 °C	Acid Number	1.0	Product Description	High purity	Flexural Modulus	2.0 GPa	Surface Resistivity	10 <sup>11</sup> Ω	DSC Heat Flow	Endothermic peak at 100 °C
Thermal Oxidation	10% at 250 °C	Alkaline Value	1.5	Quality Assurance	ISO 9001	Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	TGA Residue	10% at 500 °C
Thermal Reduction	10% at 200 °C	Hydroxyl Number	100	Technical Support	Available	Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>13</sup> Ω·cm	FTIR Spectrum	1700 cm <sup>-1</sup> peak
Thermal Polymerization	10% at 150 °C	Acid Value	2.0	Documentation	Complete	Flexural Strength	80 MPa	Surface Resistivity	10 <sup>10</sup> Ω	1H NMR Spectrum	4.5 ppm peak
Thermal Crosslinking	10% at 100 °C	Saponification Value	180	References	See bibliography	Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	Mass Spec Data	100 m/z peak
Thermal Curing	10% at 50 °C	Hydroxyl Value	100	Notes	See remarks	Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>12</sup> Ω·cm	Elemental Analysis	C: 60%, H: 10%, O: 30%
Thermal Annealing	10% at 25 °C	Acid Number	1.0			Flexural Modulus	2.0 GPa	Surface Resistivity	10 <sup>11</sup> Ω	Thermal Gravimetric Analysis	5% weight loss at 300 °C
Thermal Drying	10% at 10 °C	Alkaline Value	1.5			Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	DSC Heat Flow	Endothermic peak at 100 °C
Thermal Storage	10% at 0 °C	Hydroxyl Number	100			Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>13</sup> Ω·cm	TGA Residue	10% at 500 °C
Thermal Transport	10% at -10 °C	Acid Value	2.0			Flexural Strength	80 MPa	Surface Resistivity	10 <sup>10</sup> Ω	FTIR Spectrum	1700 cm <sup>-1</sup> peak
Thermal Conversion	10% at -20 °C	Saponification Value	180			Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	1H NMR Spectrum	4.5 ppm peak
Thermal Transformation	10% at -30 °C	Hydroxyl Value	100			Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>12</sup> Ω·cm	Mass Spec Data	100 m/z peak
Thermal Transmutation	10% at -40 °C	Acid Number	1.0			Flexural Modulus	2.0 GPa	Surface Resistivity	10 <sup>11</sup> Ω	Thermal Gravimetric Analysis	5% weight loss at 300 °C
Thermal Transmutation	10% at -50 °C	Alkaline Value	1.5			Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	DSC Heat Flow	Endothermic peak at 100 °C
Thermal Transmutation	10% at -60 °C	Hydroxyl Number	100			Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>13</sup> Ω·cm	TGA Residue	10% at 500 °C
Thermal Transmutation	10% at -70 °C	Acid Value	2.0			Flexural Strength	80 MPa	Surface Resistivity	10 <sup>10</sup> Ω	FTIR Spectrum	1700 cm <sup>-1</sup> peak
Thermal Transmutation	10% at -80 °C	Saponification Value	180			Impact Modulus	1.0 GPa	Dielectric Strength	10 kV/mm	1H NMR Spectrum	4.5 ppm peak
Thermal Transmutation	10% at -90 °C	Hydroxyl Value	100			Compression Modulus	1.0 GPa	Volume Resistivity	10 <sup>12</sup> Ω·cm	Mass Spec Data	100 m/z peak
Thermal Transmutation	10% at -100 °C	Acid Number	1.0			Flexural Modulus	2.0 GPa	Surface Resistivity	10 <sup>11</sup> Ω	Thermal Gravimetric Analysis	5% weight loss at 300 °C
Thermal Transmutation	10% at -110 °C	Alkaline Value	1.5			Impact Modulus	1.0				

12. A method for associating target data with a product classification schema, comprising:

accessing the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized,  
5 the schema further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

accessing the target data to be associated with the schema;

determining one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product attributes of the ontologies or between the target data and values for one or more of the product attributes; and

associating at least a portion of the target data with one or more classes in response to determining one or more classes with which at least a portion of the target data should be associated.

13. The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including the name or an equivalent name of a product attribute included in the ontologies of these one or more classes.

14. The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including values that match or are similar to values for a product attribute included in the ontologies of these one or more classes.

15. The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including a range of values that matches or is similar to a range of values for a product attribute included in the ontologies of these one or more classes.

5           16.     The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including symbols that match or are similar to symbols associated with values for a product attribute included in the ontologies of these one or more classes.

10           17.     The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data having formatting that matches or is similar to formatting of values for a product attribute included in the ontologies of these one or more classes.

15           18.     The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises using vector space analysis to identify multiple portions of the target data including values that correspond to values for multiple product attributes included in the ontologies of these one or more classes.

20           19.     The method of Claim 12, wherein determining one or more classes with which at least a portion of the target data should be associated comprises using statistical correlation techniques to identify portions of the target data including values that correspond to values for a product attribute included in the ontologies of these one or more classes.

25           20.     The method of Claim 12, wherein the values for one or more of the product attributes with which the target data may be compared are stored in one or more seller databases, the values in the seller databases being identified by one or more pointers associated with one or more classes of the schema.

30           21.     The method of Claim 12, wherein associating at least a portion of the target data with one or more classes comprises associating one or more pointers to the target data with the one or more classes.

22. The method of Claim 12, wherein associating at least a portion of the target data with one or more classes comprises associating one or more pointers to specific portions of the target data with one or more product attributes included in the ontology of the one or more classes.

23. Software for associating target data with a product classification schema, the software operable to:

access the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, the schema further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

access the target data to be associated with the schema;

determine one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product attributes of the ontologies or between the target data and values for one or more of the product attributes; and

associate at least a portion of the target data with one or more classes in response to determining one or more classes with which at least a portion of the target data should be associated.

24. The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including the name or an equivalent name of a product attribute included in the ontologies of these one or more classes.

25. The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including values that match or are similar to values for a product attribute included in the ontologies of these one or more classes.

26. The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including a range of values that matches or is similar to a range of values for a product attribute included in the ontologies of these one or more classes.

5           27.     The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data including symbols that match or are similar to symbols associated with values for a product attribute included in the ontologies of these one or more classes.

10           28.     The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises identifying a portion of the target data having formatting that matches or is similar to formatting of values for a product attribute included in the ontologies of these one or more classes.

15           29.     The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises using vector space analysis to identify multiple portions of the target data including values that correspond to values for multiple product attributes included in the ontologies of these one or more classes.

20           30.     The software of Claim 23, wherein determining one or more classes with which at least a portion of the target data should be associated comprises using statistical correlation techniques to identify portions of the target data including values that correspond to values for a product attribute included in the ontologies of these one or more classes.

25           31.     The software of Claim 23, wherein the values for one or more of the product attributes with which the target data may be compared are stored in one or more seller databases, the values in the seller databases being identified by one or more pointers associated with one or more classes of the schema.

30           32.     The software of Claim 23, wherein associating at least a portion of the target data with one or more classes comprises associating one or more pointers to the target data with the one or more classes.



33. The software of Claim 23, wherein associating at least a portion of the target data with one or more classes comprises associating one or more pointers to specific portions of the target data with one or more product attributes included in the ontology of the one or more classes.

34. A system for associating target data with a product classification schema, the system comprising:

means for accessing the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, the schema further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

means for accessing the target data to be associated with the schema;

means for determining one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product attributes of the ontologies or between the target data and values for one or more of the product attributes; and

means for associating at least a portion of the target data with one or more classes in response to determining one or more classes with which at least a portion of the target data should be associated.

35. A computer-implemented system for associating target data with a product classification schema, the system comprising a data association module operable to:

access the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, the schema further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

access the target data to be associated with the schema;

determine one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product attributes of the ontologies or between the target data and values for one or more of the product attributes, the values being stored in one or more seller databases and identified by one or more pointers associated with one or more classes of the schema; and

associate at least a portion of the target data with one or more classes in response to determining one or more classes with which at least a portion of the target data should be associated, the target data being associated with the classes using one or more pointers to the target data.

accessing the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, the schema further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

determining one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product attributes of the ontologies or between the target data and values for one or more of the product attributes, the values being stored in one or more seller databases and identified by one or more pointers associated with one or more classes of the schema; and

associating at least a portion of the target data with one or more classes in response to determining one or more classes with which at least a portion of the target data should be associated, the target data being associated with the classes using one or more pointers to the target data.

37. Software for associating target data with a product classification schema, the software operable to:

access the product classification schema, the schema comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, the schema  
5 further comprising ontologies associated with one or more of the classes, each ontology comprising one or more product attributes;

access the target data to be associated with the schema;

determine one or more classes with which at least a portion of the target data should be associated based on a comparison between the target data and the product  
10 attributes of the ontologies or between the target data and values for one or more of the product attributes, the values being stored in one or more seller databases and identified by one or more pointers associated with one or more classes of the schema;  
and

associate at least a portion of the target data with one or more classes in  
15 response to determining one or more classes with which at least a portion of the target data should be associated, the target data being associated with the classes using one or more pointers to the target data.